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BLOCK-PRINTING

by

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OF

Bachelor of Library science

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BLOCK-PRINTING.

Xylography or block-printing, the earliest and rudest method of impressing letters or characters on paper, is now of little practical value in comparison with the modern process by which a piece of writing once made may be multiplied. Yet it has played an important part in the history of the art, connecting the tedious labor of the Roman slave writing from dictation, or the monk copying from the open volume and the rapid work of the twentieth century printer. As the forerunner, then, of movable type, block-printing is still of interest.

Xylography is the scientific word for the art of making engravings on a block of wood, in high relief, from which impressions are produced. The word is little used by engravers, with whom the process is usually known as wood-engraving. It is commonly used, however, by bibliographers to distinguish books printed from types and those printed from engraved blocks. In one respect, the two methods, xylography and typography are the same. In both, the design is engraved in high relief, the printing surfaces are the same. In typography the subject is printed from a combination of types which may be rearranged to form a new combination and used again. In xylography, the subject is engraved on a single block of wood; and, as the engraving is fixed on the block, it can be used only for the one subject. This fixedness of design on the block is the great feature which separates the two processes and which has given typography its superiority and permanency.

INTENTION OF BLOCK-PRINTING.

There is no record, nor even any tradition, concerning an invention of block-printing; but some mode of engraving and producing impressions has been known from the earliest period. Some writers trace its origin back to the first barbarian king who smeared his hand with red ochre or the soot from a burning lamp and then made the impression of his palm beneath a grant of land. This same principle is seen in the Egyptian and Babylonian practise of cutting characters on wooden stamps, with which they impressed soft substances such as wax or clay. Their buildings were built of burnt brick, which were stamped with an inscription according to the nature of the edifice. In many instances these impressions show clearly that the stamp was engraved in relief and then applied to the plastic clay. The same idea is evident in the Roman hand stamps used as early as the fifth century and in the stamping of signatures on documents in the Middle Ages. Though these uses may have suggested the process of printing from engraved blocks, yet the art did not really exist until the printer laid his paper down on the block and took off the impression.

CHINESE BLOCK-PRINTING.

It is now generally believed that the Chinese were the first to practise the art of wood-engraving and that they used it for the purpose of multiplying copies of an original writing. One writer surmises that the invention of block-printing may be due to an accident. When the characters written on the wooden tablet were still wet, a piece of linen or other fabric may accidentally have been laid upon them and the wet letters would repeat themselves. This

would suggest to the Chinese the idea of cutting away the wood around the letters and leaving them in relief, when they might be charged with ink, and by placing the linen over them, an impression could be taken off.

This explanation of the origin of Xylography is only conjecture, but the use of the process can be definitely traced back to the sixth century, when the founder of the Suy dynasty ordered all remains of classical works to be engraved on wood and the text printed. The process of printing colored patterns on different kinds of fabrics was also known at an early date and practised most extensively in China. It is difficult, however, to determine whether the printing of cloth or printing of block-books was first attempted.

That the European nations did not hear of the Chinese printing until a late date is not to be wondered at when the instinctive dislike of that nation to foreigners is considered. Not until the end of the thirteenth century did a European extend his travels as far as China. This was the Italian, Marco Polo. It is improbable, however, that his account of the Chinese block-books was the first introduction of this method of printing into Europe. The art of printing patterns on fabrics had been known in this country since the twelfth century. The practice of stamping signatures on paper had long been prevalent in Europe and from this the people may have developed the printing of fabrics; or from the custom of ancient caligraphists and illuminators of manuscript who sometimes formed their large capital letters by means of a stencil or wooden stamp. This process could have been extended to the impression of a whole volume, and thus the earliest specimens of wood-engraving may be but the same principle applied on a larger scale.

PLAYING CARDS.

Playing cards, of oriental origin, were among the earliest productions of the European engravers. Some writers argue that because their manufacture was so universal at the time when intercourse between the Chinese and Venetians was at its height, they, and the art of engraving were first introduced at that period. It is more probable that playing cards had been brought from the East long before Marco Polo's time and were already widely known throughout Europe. At first they were painted by hand or produced with the stencil and brush. Decrees prohibiting card-playing are found in France and Spain as early as 1387. That they were made at a later date by the block-printing process is proved by a petition dated 1441, by the Venetian card-makers asking protection for their trade against the introduction of large quantities of cards from foreign countries. From the wording of the petition, it is evident that a form of Xylography was the method used and that protection was asked for a trade long since established. The foreigners referred to were the Germans and Hollanders. Probably they derived their knowledge of cards from Italy, but in Germany and Holland the manufacture of them was first turned to a greater commercial profit and a larger number of specimens are found in those countries than in Italy. The earliest German card-makers mentioned in town records are women. One of these cards, entitled The Fool, represents a boy in grotesque costume with his drum and horn. Another, the Knave of the Bells, pictures in rude outline a man and beside him his bell. These playing-cards were very popular and their great demand probably led to the application of a rude form of xylography to their manufacture. They repaid the engraver for his labor, for people who could not read or write could enjoy the

cards. Their popularity was denounced by the clergy of that time; but they were not an unmixed evil, as they were one of the means by which early printing was first made prevalent.

IMAGE PRINTS.

The playing cards were doubtless extensively used long before the image-prints, although some bibliographers trace the latter back to the ninth century. Possibly the art of wood-engraving was applied to the prints to overcome the evil effects of the cards. These image-prints, or anapistographs, are pictures of the saints or scenes in scriptural history printed on one side of a single sheet from engraved blocks. The size of the sheet varied from two or three inches square to a half-sheet of fools-cap. The designs were usually colored, the color being painted in by hand or by use of the stencil. The colors used were coarse, glaring, and unskillfully applied. There were no prints in black and white. In the gay colors lay the attraction to the buyer, and not in the drawing. A resemblance to the paintings which adorned the walls of churches and monasteries may be traced in some of the prints. Others were evidently copied from illuminated manuscripts. The quality of the engraving is unequal. In some it is neatly done, while others are rudely cut. In all the engraving is merely in outline, no attempt is made at shading.

Many of these wood-cuts of the saints have been discovered pasted inside books belonging to the monastic libraries. One of them, the St. Christopher, was found in an old manuscript volume in a German convent. The design represents the saint carrying the infant Saviour across a river. Beneath the picture is the Latin inscription: "In whatsoever day thou seest the likeness of St. Christopher, In that same day thou wilt at least from death no evil blow incur".

At the side of the figure is the date 1423, and this is the first authentic date that can be assigned to any specimen of block-printing. The engraver of the print is unknown, but some of his work is equal to that of skilled artists. The folds of the drapery and the figures are well drawn, but the relative proportions of the different figures in the picture are absurd. Three copies of the print have been found. One of these is now in a private library at Manchester, England, having been a part of Earl Spenser's large collection.

Another print, a cut of the Annunciation, was found pasted in the same volume with the St. Christopher. It is the same size as the St. Christopher and the same paper and ink have been used, but the engraving is so different that it could not have been done by the same hand .

The Brussels print, discovered as late as 1848 fixed inside an old chest, bears the date 1418. This date however, has been tampered with and has not been established as yet. The picture represents the Virgin and infant Saviour surrounded by saints, while angels holding wreaths hover over the group. The design is stiff and unnatural.

The print of the St. Bridget represents the saint writing in a book while Christ and the Virgin look down from above. The colors show the inferiority of the work, being a mixture of dull brown, green, yellow, dark gray, with a border of mulberry.

The Flemish Indulgence print is in old Dutch or Flemish, dating about 1460. The Berlin print, now in the Cabinet of engravings at Berlin is also of Flemish origin. Another print, undated, represents the crucifixion. It was found in a manuscript book of prayer belonging to a monk, who had pasted it between the leaves apparently

with reference to an illusion, in the text of the opposite page, to the blood of Christ, which is represented in the print by spots and lines of vermillion ink. Many similar prints, both dated and undated have been found, and new discoveries are frequently made.

There is no positive knowledge as to the process used in making these anapistographs, nor as to the engravers. There is little evidence in the prints themselves as to their origin. A great many of them have been found in Germany and have been attributed to unknown engravers of that country who practised the art from 1400 to 1450. They have been found in a part of Germany famous as the home of early wood-engravers. France, Italy, China, and the Netherlands also claim the first specimens; but only Germany and the Netherlands have prints to show. The prints so far discovered are all of a religious character, and were widely scattered among the people by the monks. In Flanders, it is said that on days of festivals the monks walking in procession distributed these gayly colored cuts to the children in the streets.

DEVELOPMENT OF THE BLOCK-BOOKS.

This was but a rude beginning in the art of engraving; but its usefulness was to appear later when men, eager for any means by which intellectual knowledge might be extended, first applied it to the production and multiplication of copies of books. The Chinese had so applied it at an early period, but in Europe the oldest specimens do not date earlier than the beginning of the fifteenth century. To trace the conditions which had so long hindered and which finally led to the development of the block-books is necessary to understand the nature of these first examples of printing.

After the fall of the Roman Empire, the resulting condi-

tions were naturally unfavorable to the advancement of literature. Yet the demand for religious works and copies of the Bible continued, and the profession of copying manuscripts was still carried on in the monasteries. However, the monks spent so much time and labor on the caligraphy and illumination of their books that a small number was produced and the prices consequently were high. Such books were used only by the ecclesiastics and the wealthy class. On the other hand, the demand at that period was small. There were almost no schools, colleges, or libraries in Europe which were open to the common people. The habit of reading was unusual except among the clergy. Because of these conditions, from the fifth to the twelfth century few books were in demand and no process of rapidly multiplying them was needed.

The case was different at the end of the fourteenth and the beginning of the fifteenth centuries, when there was a revival of learning and a proportionately greater call for books. Formerly, during similar revivals of literature among the Eastern nations, there had been a large number of slaves who were set to copying the manuscript books. Now, however, no such class of laborers existed in Europe to answer the demand. Therefore a mechanical substitute was sought, first in the printing from engraved blocks and later in the printing-press.

The costly manuscript books were all in Latin and of a religious nature. They were not suited to the understanding of the common people nor to the advancement of general learning. As the call for elementary and popular books, such as grammar and the common books of devotion, increased the business of copying manuscript gradually passed from the hands of the churchmen to the laity, and the

practise of transcribing again became an active trade. Soon the copyists sought for a quicker and cheaper method of producing their works. The first manufacture of paper suitable for writing enabled them to give up the expensive parchment. The elaborate decoration of books was also abandoned. Manuscript books in simple outline illustration were produced, but little text being written in by hand. Such is the *Figure de la Bible*, a British Museum manuscript. Each of the illustrations occupies nearly a whole page leaving just room enough at the bottom for the title. Books in which printed illustration are set in a manuscript text have been found. The *Pomerium Spirituale*, or *Spiritual Nursery*, is a small book in manuscript in which each page is headed by an engraving. It was just such books that the early block-printers first attempted to produce by a mechanical process.

A general appreciation of pictures had been created by the wide distribution of image prints. The prints were not above the capability of the illiterate, although books of letters were. Possibly the first approach to a block-book was merely a number of image prints stitched together. The popularity of such collections of prints would lead the wood-engravers to attempt the copying of manuscripts, but owing to the greater difficulty of cutting the letters, the text of the first specimens was confined to explanatory titles or brief descriptions. The engraving of the illustration and even a short text took much longer in the first instance than the old way of drawing and writing by hand, but when one set of blocks had been completed any number of impressions could be taken and any number of copies of the book produced. Naturally, the work of the early block-printers was very inferior to the beautiful manuscripts made by the skilled illuminators and calligraphers, but these rude picture-books were the beginning of an art which was to surpass the work of the



professional scribes.

BIRTH-PLACE OF BLOCK-PRINTING.

Although the Italians had for a long time engraved initial letters, printed designs in colors on woven fabrics, extended the manufacture of playing-cards and image prints, yet they were not the first to produce the block-books. Block-printing began with plain work and was adapted to the demands of a plain people. The tastes of the Italians were refined; they could not tolerate rudeness. There was no middle class in Italy suited to the work of xylography.

In Spain, there were libraries and schools, but the love of books was not found among the common people. The Hundred Years War was in progress in France and the interests of the people were devoted to war rather than to learning. In England, education was still suppressed.

In Holland, Flanders and Germany, the conditions were more favorable. In these countries a greater liberty was enjoyed. Schools were established for the poorer classes. In the Netherlands, Philip the Good protected the commerce and industries of the country, and furthered the progress of literature, science and art. Bibliographers differ as to whether the new process was first used in Germany or Holland and Flanders. It is reasonable to suppose that block-books were first made at Ulm, Nuremberg, Augsburg, and other German towns, which have the earliest records of manufactures of playing cards, and in the district where old image-prints are oftenest discovered. However, the earliest known block-books have been found more abundantly in Holland and Flanders. Specimens of a later date are doubtless of German origin, but they were evidently modelled after Dutch or Flemish patterns. At least it is clear that in the

Netherlands the art was brought to its highest development at an early date, and to-day this country, which on account of social conditions was most likely to be the birth-place of block-printing, is generally accepted as the home of the first block-printers.

The books themselves do not show whether they were first printed in Holland or Germany. The language of the books is often Latin, the language of the church and scholar, and gives no clue to the place where they were printed. The paper marks are of no practical value as a clue, nor the shape of the letters, as Germanlike letters are often found in Dutch books and Dutch letters in German books. The designs afford no evidence, as they could have been copied from manuscripts or drawn in one country and copied in another. There are few unbiased critics on this subject. To the German critic all block-books are German, and to the Dutch critic, they are Dutch.

THE EARLY BLOCK PRINTERS.

The early block-printers were neither scholars nor men of high literary standing, but men who could neither read nor write. Probably the first block-books were made by the printers of playing-cards and image prints, or by the self-taught copyists who had taken up the work of the monks. There is no evidence that any of the books were printed in the monasteries, or by the monks. A few specimens have been found which bear the seal of a monastery; but it is thought that such books were printed for, not in, a monastery and under the direction of the monks. None of the earlier books bear the printer's name. The registers of several German towns contain entries which mention the names of wood-cutters(form-schneider).

In a register of taxes of Nordingen, a certain Wilhelm Kegeler is mentioned as brief-stucker; later his widow is registered as alt

brief-stuckerin. Similar entries are found in town registers of Holland and Flanders, but none of the early block-printers mentioned seem to have been of especial prominence and almost nothing is known about them.

Other records which have been found indicate that the books were not produced by a printer who cut a set of blocks and used them until they were worn out and then cut another set. The wood cutter was only the tradesman and he sold, not the books, but the blocks. He cut set after set of blocks and sold them to the people or to religious establishments who would employ some one to print the impression.

DESCRIPTION OF THE BLOCK-BOOKS.

Bibliographers divide the block-books into two classes: (1.) Books of pictures without text, in which the words describing the picture are engraved at the foot of the page or in cartouches proceeding from the mouths of the principal figures. (2.) Books of pictures with text, in which the explanations of the pictures are given in the form of a full page of text, usually printed on the page opposite the picture. A third class might be added perhaps, although not strictly including block-books. These are books printed by the first typographers, in which the illustrations are made from engraved blocks, but the text is printed from movable types.

The process which the Chinese used in printing their block-books and which the printers of cards and image-prints doubtless employed is practically the same as that used by the first European block-printers. Some authorities maintain that in the method first used, the writing was transferred to the surface of the block and then the transferred lines were cut in below the surface.

The surface remaining was blackened and an impression was made on paper. The result was writing in white on a field of black.

The process commonly accepted, however, results in writing in black on a field of white. The wood used was probably that of the pear or box-tree, or some similar hard, smooth wood. The first step was to draw or write the design or characters on a piece of transparent paper. This paper was then laid on the block reversed so that the letters were placed backwards, and thus they were traced on the wood. The next step was to cut away all the block surrounding the design or writing to a certain depth, thus leaving the matter to be printed cut in high relief above the surface. The letters thus raised were inked and the paper laid upon them. The back of the paper was then rubbed by the frodden, a small cushion of cloth stuffed with wool. An impression was taken off by means of the friction thus produced.

There are several points in this process which are hard to understand. The paper used at that time was heavy, more like the modern manilla wrapping paper; and if used dry, would not take the ink. On the other hand, if the paper was wet, it would be torn by the rubbing of the frodden. In spite of the fact that many of the block-books show signs of this excessive rubbing, it seems plausible to accept Mr. Theodore De Vinne's explanation. He believes that the paper would slip when rubbed with an elastic cushion and that it is more probable that a press or proof-planer was used. This he describes as being a thick block of wood, with one side smooth and covered with a cloth. The planer was carefully pressed down on the paper and then pounded with a mallet. This pounding would leave the same traces as rubbing with the frodden and would not tear the wet

paper so easily. Again, the block may have been run in under a platen which, being acted on by a lever, pressed the paper on to the raised lines of the block and thus produced the impression.

The earlier block-books were printed in a distemper ink. Lamp black mixed with gum water had long been used by the ancients for writing; but how to thicken ink so as to make it suitable for printing from a raised surface was for some time an important question with the xylographers. An ink of more substance was probably obtained by the prolonged boiling of oil and then mixing it with carbon or lampblack. The later block-books were evidently printed in such an ink. The blocks may have been inked by use of a brush, or by beating with the roller in the same manner as type is now charged.

With one exception, the Donatus, all xylographic books were printed on paper. The paper was heavy and of an inferior quality. The sheets used were not quired, but followed each other singly. In many of them signatures have been found, each sheet being signed with a letter of the alphabet as a guide to the binder. The size of the sheets varied, some being three by six inches and others six by nine or ten inches. They were printed only on one side. From the nature of the process used, it was impossible to print on both sides. The rubbing or hammering while making the second impression would have spoiled the first impression. The margins are often uneven and doubtless it was difficult for the printer to place the sheets with uniform accuracy upon the blocks.

Few of the block-books have a title-page or bear a printer's mark. Some of the later ones give the date and in a few cases the name of the printer and place of publication. The letter press in the majority of the xylographs is cut in imitation of hand-writ-

ing and not of the square church-hand from which printed types were copied. Probably the xylographers soon found it useless to try to compete with the typographers in the regularity and neatness of the text, and gave the illustrations their especial attention, putting in the letters with as little trouble as possible.

THE STORY OF THE CUNII.

Though none of the block-books yet found date earlier than the fifteenth century, M.Papillon an eminent wood-engraver, claims to have seen an Italian xylograph which he believed to have been engraved in the thirteenth century. While few bibliographers credit the story, still it deserves mention in any account of the block-books.

The book is said to have been engraved by a twin brother and sister, bearing the name of Cunio. M.Papillon states that he saw the book about 1720 at a country house near Paris. This was the residence of a Swiss officer, whose grandfather had received the book from the descendants of the Cunii. Like the earliest block-books, the illustrations are the main feature of the book. It had, however, an ornamented title-page and a preface in Italian Latin which M. Papillon translates as follows; "Heroic actions, represented in figures, of the great magnanimous Macedonian king, the bold and valiant Alexander, dedicated and presented, and humbly offered to the most holy Father Honorius, to the glory and support of the church, and to our illustrious and generous father and mother, by Alessandio Alburio Cunio, knight, and Isabella Cunio, twin brother and sister, first imagined and executed in relief with a pen-knife on blocks of wood by this learned and dear sister, finished by us together at Ravenna, from eight pictures of our invention, engraved and explained

by verses and thus marked upon paper to perpetuate a number of them and to enable us to present them to our relatives and friends:all this was done and finished by us when sixteen years of age". This preface clearly shows the nature of the work.

Several facts seem to favor the truth of this story. The Cunii family was well-known in Ravenna. The date agrees with the reign of Pope Honorius IV. Marco Polo had just returned from China and may have brought block-books back with him. A bibliographer of Moscow claims that in 1861, in Nuremberg, he saw seven out of the eight pages described by Papillon. On the other hand, Papillon did not write his account of the book until thirty years after he had seen it, and it is very likely that he made some mistake in regard to the dates. Title-pages, especially ornamental ones, and printers signatures were not used until the close of the fifteenth century. It is probable that the book was well-known as a manuscript work of the Cunii family, and at the end of the fifteenth century was copied by the block-printers, and it was such a copy that Papillon saw.

BIBLIA PAUPERUM.

Leaving, then, the work of the Cunii twins out of question, most bibliographers give the Biblia Pauperum as the oldest block-book. This book belongs to the first class, pictures with brief titles engraved on the same block. It had long been popular in manuscript form. According to mediaeval chronicles, it was written by a monk, St. Ansgar, who laid the foundations of the famous library of the monastery of Corvey. Other writers suppose that the designs in the book were copied from sculptures of the Cathedral of Bremen or from the painted windows of a convent which exhibit the same series of subjects. The title, Biblia Pauperum, has been translated as Bible for the Poor,

but as the poorer classes were unable to read, it is probably that these pictorial sermons were used by the poor friars, many of whom could scarcely read and in preaching trusted to memory and imagination. To such, the suggestive ideas of the illustrations would be of great aid. Again the title may have been used to distinguish it from the Bible proper which was written on vellum and was for the rich.

There are several distinct editions of the xylographic *Biblia Pauperum*. The first edition is in Latin and consists of forty engravings, the engravings facing each other with two blank pages between. It is probably that the two pages facing each other were engraved on the same block as there are traces of cracks in the block which extend over both pages. There are no folio or paging figures; but the first twenty pages bear the letters a to v, and pages twenty-one to forty, the letters a to v, with a dot after the letter. Different paper marks show that the paper used was made by different manufacturers. The ink is dull brown or rusty color. The book was probably first printed and sold in Holland, owing to the Dutch and Flemish features in the designs. The date of printing is fixed by some as early as 1410 and by others as late as 1425. An edition was printed from movable types by Albert Pfister in 1462.

The pages are ten inches high and seven or eight inches wide, and consist of three pictures. The center one represents an event in the New Testament, while those on either side represent corresponding events in the Old Testament. Above the three principal pictures are half-length pictures of two of the prophets and below figures of two of the apostles. Latin inscriptions explaining the pictures are given in corners of the page or in scrolls near the figures. One page represents, as the ancient types, Samson bearing away

the gates of Gaza and Jonah coming forth from the whale, while the event typified is the rolling away of the stone from the sepulchre. Another page is intended to depict the necessity of restraining the appetite. One picture represents the temptation of Eve; another, Esau receiving the mess of pottage from Jacob, while the central design shows Christ tempted by the devil to turn stones to bread. The prophets David and Isaiah are oftenest represented, but the same people are seldom represented with the same faces. Many amusing anachronisms may be seen in the pictures, Gideon in plate armour, mediaeval helmet and visor; David and Solomon in wide-brimmed hats; Elijah in a modern farmer's hay-wagon; Dutch gables and latticed windows of the 15th century Flemish residence.

THE APOCALYPSE OF ST. JOHN.

No date can be assigned to the Apocalypse; but many bibliographers consider it older than the *Biblia Pauperum*, because of the greater simplicity of the engraving and rudeness of the letters. The large number of copies found in Germany lead to the conclusion that it was first printed in that country. In make-up, the Apocalypse is similar to the *Biblia Pauperum* having the same paper, ink, and use of signatures. The book consists of fifty pages, representing events in the life of St. John. In spite of the inferiority of the engraving skill is shown in the strong character of the faces and in the grouping of the figures.

CANTICLES CANTICORUM.

Another block-book, with no text except short explanatory titles, is the *Historia Virginis Mariae ex Cantico Canticorum*; or the History of the Virgin Mary from the Song of Songs. There are sixteen pages of small folio size resembling, in the main, the two books

just described, although the engravings are of a higher grade. Shading is used, the back-grounds are better put in and the field of each cut is better filled. It is usually counted among the Dutch block-books and is of later date than the *Biblia Pauperum*. The two main figures in the design represent the bride and bridegroom. The bride wearing a crown typifies both the Virgin Mary and the church, while the bridegroom, surrounded by a nimbus, typifies Christ. The other figures in the pictures are the attendants of the bride. In every cut the female figures are the same, the drapery and expressions varying but little. A book, bearing the imprint of Peter Van Os of Zwoll, 1494, has for its frontispiece the first page of the Song of Songs.

THE EIGHT ROGUERIES.

This book is one of the earlier specimens of block-book making. The text is in high German, and the book was found in a South German monastery. It consists of eight leaves, illustrating the go-between, the liar, the cheat, the counterfeit goldsmith, the cheating merchant, the blacksmith that sells iron for steel, the church robber and the cheating rope-maker. The cuts are rude but full of character and meaning. It is one of the few block-books of a non-religious nature.

THE STORY OF THE BLESSED VIRGIN.

This book is probably of German origin, with text in Latin. It consists of sixteen leaves with four illustrations on each leaf. Probably all the editions were issued after the invention of movable type as the ink used is black and more like that used in connection with the printing-press. It is a good example of the religious literature of the fifteenth century. The object of the book is to show the



reasonableness of the story of incarnation. The inscriptions relating to bees without fathers, geese born from trees, asbestos burning forever, show the real value of the scholastic philosophy of that period.

BOOK OF THE ALPHABET.

With respect to the drawing, and engraving, the cuts of this book are decidedly superior to those of most block-books. Several copies have been found dated 1464. One copy in the British Museum is full of English writing, and the cut of the letter L has London written in. This has led bibliographers to think that the book is of English origin. It is difficult to see the real object of the book. The designs are too elaborate to be of use in teaching the alphabet.

ARS MEMORANDI.

One of the oldest and best-known of the block-books of the second class, books with explanatory text cut on a separate page from the picture, is the Ars Memorandi. The text is in Latin, of very poor grammar and orthography. It is intended to aid in remembering the important passages of the Four Gospels, Matthew, Mark, Luke and John. The different objects in the pictures are numbered and corresponding numbers are given to the explanations in the opposite pages of text. Five pages are devoted to St. Matthew and three to each of the other Gospels. The four Evangelists are symbolized, St. Matthew by an angel, St. John by the eagle, St. Luke, by the bull, and St. Mark by the lion. Each symbol is always surrounded by objects having reference to events related in the Gospel represented by the symbol. One page, representing St. Matthew, would be hard to understand without the aid of the text. In the left hand of the symbolic angel are two objects supposed to be the sun and moon, illustrating the passage

"There were signs in the sun and moon". Above the angel are two hands clasped together, referring to the generation of Christ's ancestors given in St. Matthew. The cockle-shell and bunch of grapes signify the flight into Egypt, the head of an ass, Christ's entrance into Jerusalem riding on an ass. The table with the knife and cup typifies the Last Supper. In a page illustrating the Gospel of St. John, the lute and bells refer to the marriage of Cana, the water-bucket to the woman of Samaria at the well, the loaves and fishes to the feeding of the multitude, and the pool to the miracle of Bethseda.

ARS MORIENDI.

Another equally well-known block-book is the *Ars Moriendi* or Art of Dying. One authority cites ten editions of the work, seven in Latin, and three in German. The text is the same in all editions, but the engravings are unequal in merit. The ink is sometimes black and sometimes brown, and in some of the later editions both sides of the paper are used, showing that the impressions were not taken off by the rubbing process. Some writers place the date of the first edition as early as 1430 and by 1500 it had been printed either by xylography or typography in Nuremberg, Paris, Florence, Rome, Verona, Lyons, Utrecht, Delft, and Zwoll.

The work is a kind of a dialogue between the angels and the devil at the bedside of a dying man, both contending for his spirit. The following passage translated from the preface shows the tone of the whole book; "When it is so that what a man maketh or doeth, it is to come to some end: and if the thing be good or well made, it must come to a good end: then by better and greater reason, every man ought to intend in such wise to live in this world, in keeping with the commandments of God, that he may come to a good end.

Then out of this world, full of wretchedness and tribulations, he may go to heaven unto God and his saints, unto joy ever durable". In most of the illustrations, the angels are pictured as victorious over the devil, and receive the soul of the dead, represented by the small figure of a man which the dying person seems to exhale with his last breath.

THE CHIROMACY OF DOCTOR HARTLIEB.

This is the earliest German block-book with a date, being printed by George Schaff, of Augsburg in 1448. It professes to tell the science of palmistry or telling the fortune by the wrinkles of the hand. At that time, chiromancy was considered a science and this book shows the intelligence of the average readers. It is printed on both sides of the paper and is one of the first xylographs with a separate title-page.

THE MIRABLIA ROMAE.

The Mirabilia Romae, or Wonders of Rome, is unique among block-books for the greater number of pages of text, but sixteen of the 184 pages being illustrations. It was printed in Germany in 1480, some time after the invention of movable type and is one of the most artistic examples of xylography. It was probably intended for illumination and is equal to some of the German manuscripts of that period. The book is a guide to all the principal shrines in Rome, with an account of the relics they contain. One illustration represents the so-called handkerchief of St. Veronica. This handkerchief according to the Roman legend, had been used by the saint to wipe away the blood from the face of Christ and received a perfect impression of the features of the Saviour. This relic is still exhibited in Rome and

the adoration of it formerly entitled the worshipper to many years of indulgence.

THE DONATUS.

The Donatus has a place by itself among the block-books, being the only specimen with no illustrations. It was written by Aelius Donatus, a Latin grammarian of the fourth century who taught at Rome. The book had long been used in manuscript form in the preparatory schools of the Middle Ages. The xylographic Donatus was but an abridgement of the old grammar, printed in the form of a thin folio and might be called a primer. When printed in its largest letters, it occupies thirty-four pages; in letters of small size, only nine pages. It was a popular xylographic work and met the needs of the block-printer, as it could be engraved at a small expense and could be sold in large quantities.

It was doubtless first printed from blocks in Holland, as the engravings are surely of the school of Van Eyck. Ulrich Zell, in the Cologne Chronicle, assigns it positively to Holland. Furthermore, he states that it led to Gutenberg's discovery of cast movable types. If this be true there must have been something different in some of the Donatus from other block-books; that is, some copies must have been printed from movable type. Many writers assert that Laurens Coster of Haarlem was the one to print the Donatus from type. Accepting this, it would seem that the whole controversy over the relative claims of Gutenberg and Coster as the inventor of typography rests upon the question as to the process by which the Dutch Donatus were printed. If movable types were used, then the invention might fairly be assigned to Holland since the Donatus of that country are evidently of an earlier date than the first typographic work of Gutenberg.

Nothing definite can be said on the subject. Bibliographers who are not espousing the claims of either Coster or Gutenberg, judging from the inversion of letters in some copies of the Donatus, suppose that a Holland printer used a rude form of types cut from wood or possibly metal: and that from this Gutenberg got his idea leading to the cast metal types.

The Donatus is the only book not printed on paper, all copies being on parchment. This was selected, perhaps, to adapt it to the rough usage of school-boys. Almost no complete copy of a xylographic Donatus have been found. Numerous fragments have been discovered in the binding of old books, waste leaves of the parchment being used to stiffen the backs and covers.

For many years xylographers and typographers competed in the manufacture of the Donatus, but at the end of the 15th century the typographic work was far superior. There are copies of xylographic make that closely resemble the typographic Donatus. These were probably made from engraved transfers of some typographic model. The book was so small and in such great demand, that it would be more economical for the printer to engrave a set of blocks after one of the typographic books. These would always be ready for use and the type would not need to be set up each time.

THE SPECULUM.

The Speculum Humanae Salvationis, Mirror of human Salvation, belongs to the third class of block-books, being printed partly from engraved blocks and partly from metallic movable types. It is a portion of a manuscript book long used by mendicant friars, consisting of forty-five chapters of Latin rhyme, that begin with the fall of Lucifer and proceed with typical incidents of Bible story from the

Fall of Man to the Redemption. The illustrations are at the top of the page ,with the text below in two columns. The double pictures represent first a passage from the New Testament and then its corresponding subject from the Old Testament.

There are at least four editions of the Speculum, two in Latin and two in Dutch, while all the editions are evidently printed from the same models, differences in the shape and positions of the letters show that this book is the connecting link between block-books and typographic books. One or two instances of overlapping prove that the pictures and text were not printed together . The ink also is of different color in the text and in the illustrations. One form of a letter with a blemish in it can be traced from page to page with such exact reproduction of the blemish as could only be accounted for by movable types. There are also inversions of letters which could not occur in block-engraving and there is an unequal clearness of letters placed side by side, suggesting that the distinct letter is from a new and the indistinct from a worn type. If the types were cast, they are far from uniform and there must have been from two to six moulds for a letter.

One of the four editions, contains twenty pages that are plainly xylographic. Some writers call this edition the last one and assign it to Coster, saying that when, according to the story, his type was stolen, he finished the work by means of the blocks. Others call this the first edition, asserting that while working on this edition ,he conceived the idea of movable types, and adopted them for the remainder of the work. The dates assigned to the different editions of the Speculum range from 1410 to 1471, but no date earlier than 1471 can positively be given to it.

The woodcuts of the Speculum finally came into the hands

of John Veldener, printer at Culenberg, who cut up the blocks, using portions of them for an edition reduced from folio to quarto size. This cutting up of the blocks to be used in a different combination was plainly a step toward movable types and taken together with the evident use of some kind of movable type in certain copies of the book, gives credit to the general acceptance of the Speculum as the first book directly foreshadowing the later work of the typographers.

MINOR BLOCK-BOOKS.

It is impossible to make any estimate of the number of block-books. One authority states that over 400 specimens of distinct works have been found. Without doubt, block printing was extensively practised in Europe. Among the books of minor importance are the Exercise on the Lord's Prayer written in the popular form of the dialogue the Life of St Meinrat, telling the story of two men who killed St Meinrat and were pursued by crows; and the Antichrist, warning men against the sin of heresy. Only one xylographic copy of the Dance of Death has been found. This book was very popular in manuscript form and later in typographic form. It is difficult to understand why it was not a common work of the block printers.

Many of the later block books were published by typographers. Sweinheym and Pannarts, German printers, published an edition of the Donatus in 1472. A copy of the same work in the Bodleian library bears a colophon stating that it is the work of Conrad Dincmut, printer at Ulm, 1482-96. Hans Sporer printed an edition of the Ars Moriendi from wood blocks in 1473. The only French block-book dates after the discovery of movable types. It consists of three sheets. The first sheet contains pictures of three champions of classical times, Hector, Alexander and Caesar. The second sheet repre-

sents champions of the Old Testament, Joshua, David, and Judas Maccabaeus. The third sheet pictures three warriors of the Middle Ages, Arthur, Charlemagne and Godfrey of Boulogne. With the exception of a few single leaves, no specimen of block-printing can be assigned definitely to England. The last entire block-book, entitled the Opera Nova Contemplativa, was produced in Venice in 1510. The text is carefully cut, and the whole work shows the use of tools and processes used by the typographers.

DECLINE OF BLOCK-PRINTING.

The period in which block-books were printed cannot be fixed within exact limits, 1430 may mark their origin, 1450 their perfection, 1460 the commencement of their decline and 1510 their fall. The growing demand at the end of the 15th century for printed work could not be met by the block-printers. Wood-engraving was practically limited to the production of pictures, and people were beginning to demand more. In supplying this, typography showed its advantage over xylography.

Wood cuts were objectionable to the early type-printers. The blocks were liable to crack or warp when edged in with types that had to be washed or cleaned. To evade this the text and illustration were often printed by different impressions, as in the case of the Speculum. On the other hand, the progress of typography, was regarded with jealousy by the block-printers, who felt that it would ruin the trade. Previous to the establishment of printing, they were formed into guilds and now they clung to their exclusive rights. Thus it is likely that the earliest type-printers were forced to employ non-professional block-printers. This would account for the great superiority of the cuts in the later block-books to those in the first print-

ed books. It was some time before there was any co-operation between the wood-engravers and typographers.

Probably, many of the xylographers abandoned their trade altogether and took up the new art of copper-plate printing. Others began a new work, making prints, 30-40 inches long, for the decoration of interior walls. These prints were known as Wand-Kalendars or sheet Almanacks. Several copies of such almanacs, engraved about the year 1500 have been preserved in libraries on the Continent. Even this branch was finally compelled to be given up and the printing of pages of text from engraved blocks became extinct. Block-printing began with a single sheet and with the single sheet it ended.

BLOCK-BOOKS AS EXAMPLES OF ENGRAVING.

The origin and early development of wood-engraving is identical with that of block-printing. Block-books were the first attempt in the art of engraving. The cutting of the text in some of the xylographs is almost too crude to be called an art, while the cuts were mainly in bold outline, not pictures, but skeletons of pictures. They guided the colorists who filled in the color by hand or use of the stencil. Engraved tints of gray were unknown. Light and shade, nearness and distance were suggested by contrast of painted colors. In all the block-books there is a realism which suggests the work of Van Eyck. In the German cuts, the mechanical excels the artistic power, while in the work of the Hollanders is seen the beginning of the artistic. More skill is evident in the later block-books; but even these, simple wood-cuts obscured by coarse coloring with the expression often hard or exaggerated, were but the origin of an art whose great possibilities were to be revealed fifty years after the invention of typography by Albert Durer and Hans Holbein.

LITERARY VALUE OF BLOCK-BOOKS.

From the literary point of view, little can be said of the value of the block-books. Remembering that the first xylographers were not men of learning and that block-printing was devised to supply a cheaper class of books to meet the popular demand, it is not surprising that the first block-books were evidently the outgrowth of ignorance and not of scholarship and that they were of a curious childish literature, books of pictures, not letters. The people who could read the classical books of the period treated with contempt this new form of books. They seemed crude in comparison with the beautiful illuminated books written on costly vellum to which they were accustomed. They were called literary rubbish by educated readers. Scholars looked on them as men did afterwards on the early newspapers. They gave no encouragement to the illiterate and wished people to understand that books were the right of the educated only.

With few exceptions, the block-books are of a religious character, but can scarcely be called devotional. Most of them were copied from manuscript books written by ecclesiastics for the unlearned monks. Although the people were ignorant of Latin, they appreciated the pictures. It seems strange that so few books were printed in the vernacular. Even the *Donatus*, first written for Latin Scholars, in the fifteenth century when Latin was dead, was not adopted to the capability of the German and Dutch boys. This shows the great unwillingness to make the acquisition of learning less difficult.

During the seventeenth century there was a general disposition to belittle the block-books. This seems justifiable when they are compared with the typographic work that followed. They are of no importance either as works of instruction or of authority. Published during the fifteenth century, they belong to the twelfth or thir-

teenth centuries when most of them were written. It is not strange that they were forgotten as soon as the people had outgrown them.

BLOCK-PRINTING THE FORERUNNER OF TYPOGRAPHY.

Although block-printing left but little stamp upon the history of literature, yet it did a greater service in giving printing to the world. The art of xylography and of writing differ widely from printing with movable types. However, this last process seems to have been a gradual transition from block-printing and block-printing a natural outcome of the many trials to produce books more rapidly than by hand-writing. To trace the development of printing is but to trace the development of book-making. Typography can scarcely be regarded as an invention, but rather the gradual outcome of a long series of attempts all tending toward the rapid production of the book.

Long before any method of writing was used, the deeds of one generation were handed down to the next by oral tradition. Memory was a substitute for written records. Next, the important events in the history of a people were cut in the side of mountains and in walls of buildings, or on tablets of baked clay. Engraved seals and stamps were discovered, by which any number of impressions could be made. With the discovery of parchment came the copying of manuscripts and the work of the professional scribe. In the fifteenth century, the greater demand for literature called for a quicker process. The elaborate decoration of manuscripts was given up and the mechanical art of printing from engraved wooden blocks was adopted. The xylograph was the result. Used centuries before in China and in the thirteenth and fourteenth centuries in Europe for printing fabrics and playing cards, it was but a natural advancement to apply it

to the multiplication of books.

Owing to the difficulty of cutting letters, the first impressions were merely pictures, consisting of one leaf or anapistograph. Such was the image-print of the St. Christopher. Later, several of these prints were bound together, forming such books as the *Biblia Pauperum*, illustrations with explanatory titles. The next step toward movable types was the cutting of the picture on one block and its text on another. Such are the *Ars Memorandi* and the *Ars Moriendi*. In books of this class the printer had to avoid all mistakes, because a block once engraved was permanent. Doubtless this difficulty of correction and the wish to use portions of a block in another combination, led to the cutting up of the blocks as seen in the *Speculum*. This naturally led to the attempt to cut the letters separately from the wood. As the wooden types begin to break under pressure, the printer looked for something stronger and adopted the metallic types. From the cutting of each letter from the metal, it was but a step to the casting of the letters in moulds. The result was practically the art of typography as it is still used.

Thus, in tracing the history of the book, the real value of block-printing is seen. It was through the various attempts and partial successes of the block-printers that the type-printers first gained their ideas. Xylography was the forerunner of typography and the block-books form the connecting link between the manuscript and the type-written books.

QUESTIONS ON BLOCK-PRINTING

1. To what early practices may the origin of block-printing be attributed ?
2. Describe the anapistographs. Give examples.
3. Describe the mechanical make-up of the block-books.
4. Name and describe one important book in each of the three classes of block-books.
5. What literary value have the block-books?
6. Characterize the first examples of wood-engraving.
7. What conditions led to the development of block-printing and what to its decline ?
8. Trace the development of the book from the earliest times to the introduction of typography.

READING LIST ON BLOCK-PRINTING

Blades, William.

Block-printing. (see his Pentateuch of printing. 1891. p.6-13.)

Short account of the gradual development of block-printing

Bouchot, Henri.

From block-books to movable characters. (see his (The) book:
its printers, illustrators and binders. 1889.p.1-14.)

Bouchot, Henri.

Same article. (see Larned, J.N. History for ready reference.
1895. 4:2587-88.

Principally a description of the Ars Memorandi and the Ars
Moriendi.

Chapin, Willis O.

Block-books. (see his Masters and master pieces of engraving.
1894. p.1-7.)

Treats the subject from the standpoint of engraving.

Conway, William Martin.

Dutch printers and wood-cutters. (see Magazine of art. 1881.
4:195.)

Process of wood-engraving fully treated. Description of
the most important block-books. Illustrated.

Conway, William Martin.

Wood-cuts from the block-books. (see his Wood-cutters of the
Netherlands in the 15th century. 1884. p.1-13, 195-205.)

Mostly devoted to the Biblia Pauperum, Canticles Cantico-
rum, and Speculum. Well illustrated.

Delaborde, Henri, comte.

Xylography. (see his Engraving; its origin, process and history. 1886. p.1-48.)

Describes the processes of engraving, early forms of playing cards, the Donatus and the Speculum.

De Vinne, Theodore Low.

Antique methods of impression, Chinese block-printing, playing-cards and block-books. (see his Invention of printing. 1877. p.26-28, 171-281.)

Full authoritative account. Valuable from the technical point of view.

Duff, Edward Gordon.

Steps toward the invention of printing. (see his Early printed books. 1893. p.1-20.)

Describes the Ars Moriendi, Biblia Pauperum, Apocalypse, and Canticles Canticorum.

Growth of wood-cut printing. (see Scribner's monthly magazine. April, 1880. 19:860-74.)

The transition from xylography to typography well treated.

Humphreys, Henry Noel.

Block-books, the first books produced by a printing process. (see his History of the art of printing. 1868. p.26-44.)

Detailed account of the principal block-books. Valuable illustrations.

Jackson, John & Chatto, W. A.

Antiquity and progress of engraving. (see their Treatise on wood engraving; historical and practical. 1861. p.40-117.)

History of wood-cutting from the time of the Babylonians to the invention of movable type.

Knight, Edward Henry.

Mechanical progress; printing. (see Harper's magazine. March, 1875. 50:518-21.)

Useful for its description of Chinese block-printing.

Marshall, David.

Earliest attempts at printing. (see his Printing: an account of its invention and of William Caxton. 1877. p.1-14.)

Interesting sketch of the earlier forms of engraving.

Morley, Henry.

(The) invention of printing. (see his English writers. 1890. 6:267-92.)

Popular account of the gradual growth of the art of printing.

Origin of printing. (see Harper's magazine. Oct. 1868. 37:637-41.)

Devoted mainly to the social and literary conditions preceding the invention of typography.

Ottley, William Young.

Of the early use of wood-engraving in Europe. (see his Inquiry concerning the invention of printing. 1863. p.180-337.)

Full discussion of the different editions of the Speculum together with an account of the book of Canticles and the Biblia Pauperum. Good illustrations.

Pearson, Emily C.

Block-books. (see her Gutenberg and the art of printing. 1871. p.14-87.)

Simplified account of the best-known block-books.

Sotheby, Samuel Leigh.

Principia typographica; block-books and xylographic delineations of Scriptural history issued in Holland, Flanders and Germany during the 15th century...to which is added an attempt to elucidate the character of the paper-marks of the period.

3 v. Lond. 1858. Mc Donald. 9£ 9 s. o.p.

Standard authority. Many later accounts based on this.

Excellent fac-similes.

Southward, John.

Block-printing or xylography (see Encyclopaedia Britannica. 1888. 23:724-26.)

Valuable for its descriptive list of block-books of German and Dutch origin.

Woodberry, George Edward.

(The) origin of the art of engraving and the block-books.

(see his History of wood-engraving. 1883. p.13-44.)

Woodberry, George Edward.

Same article. (see Harper's magazine. April, 1882. 64:705-16.)

Good account of the earliest forms of wood-engraving, image prints and playing-cards.

Illustrated.

LIST OF BOOKS ANALYZED

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Pentateuch of printing. Chic. 1891. McClurg. . 4.50

Bouchot, Henri.

(The) book; its printers, illustrators and binders. N. Y.

1889. Scribner and Welford. 7.50

Chapin, Willis O.

Masters and master-pieces of engraving. N. Y. 1894.

Harper. 10.00

Conway, William Martin.

(The) wood-cutters of the Netherlands in the 15th century.

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Duff, Edward Gordon.

Early printed books. Lond. 1893. Kegan Paul. 6s.

(Books about books.)

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1894-95. Nichols. 25.00

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v.6. From Chaucer to Caxton. Lond. 1890. Cassell.
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1863. Lilly. 2ls. o.p.

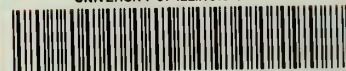
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